

# PATENT ABSTRACTS OF JAPAN

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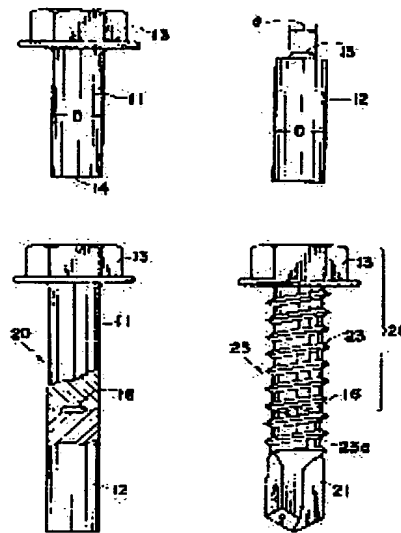
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 (22)Date of filing : 25.11.1988 (72)Inventor : SHINJO KATSUMI

## (54) SNAPPABLE DRILL SCREW

### (57)Abstract:

**PURPOSE:** To snap off easily and securely the drill part projecting to the backside of the material to be connected and the excessive screw part continued to the drill part after the conclusion of the screw connecting by connecting the first shank and the second shank through the welding projection projecting from one of the contacting faces by resistance welding, and forming the break part with the welding projection.

**CONSTITUTION:** The flat surface 14 of the first shank 11 and the welding projection 15 of the second shank 12 are connected by resistance welding, and a blank 20 made of the compounded material and having the break part 16 is formed at the connected part. Next, the drill part 21 is formed in the second shank 12 of the blank 20 by cold forging. Next, screw threads 23, 23a are continuously rolling-processed from the outer peripheral part of the first shank 11 to the outer peripheral part of the second shank 12 by a screw rolling dies. Next, though the surface of the drill part 21 and the screw thread 23a formed in the second shank 12 are hardened to the predetermined hardness by the carburization, the screw thread 23 and the break part 16 formed in the first shank 11 are not carburized. Consequently, after the conclusion of the connecting the material to be connected with a drill screw 25, the drill part 21 and the screw part 23a are easily snapped off at the break part 16.



## LEGAL STATUS

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FIG.1

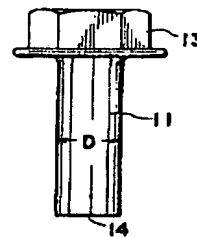


FIG.2

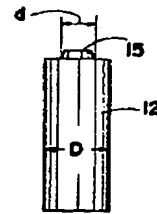


FIG.3

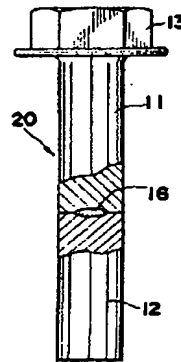


FIG.4

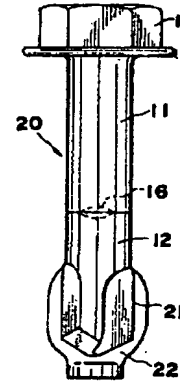
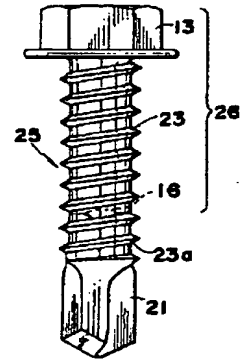


FIG.5



- 11...第1シャフト 12...第2シャフト  
13...頭部 14...平坦面  
15...溶接突起 16...破断部  
21...ドリル部 23...ねじ山  
23a...第2シャフト12に転送されたねじ山

手続補正書 (自発)

平成元年3月8日

特許庁長官 吉田文毅殿

1. 事件の表示  
昭和63年特許願第297334号
2. 発明の名称  
折取り可能なドリルねじ
3. 補正をする者  
事件との関係 特許出願人  
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5. 補正命令の日付 自発
6. 補正の対象  
明細書の特許請求の範囲及び発明の詳細な説明の欄。
7. 補正の内容  
別紙記載の通り。

- (1) 特許請求の範囲の項を別紙のように補正する。
- (2) 明細書第4頁第4行、同頁第6～7行及び同頁第13行「浸炭焼入れ」をそれぞれ「焼入れ」と補正する。
- (3) 明細書第8頁第16行「て接合してもよい。」の後に「また、ドリル部21及びねじ山23aの表面硬化手段として浸炭焼入れを採用したが、ドリル部21及びねじ山23aを成形する第2シャフト12の材質又はこのドリルねじを使用する被締結物によっては、普通の焼入れ処理でも所期の目的を達成することが可能である。」と加入する。

